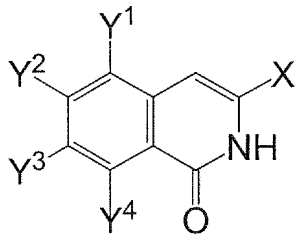
AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A compound represented by the following formula (1):

~~[Formula 1]~~



(1)

wherein,

Y^1 and Y^4 are independently selected from a hydrogen atom and a halogen atom,

either one of Y^2 and Y^3 represents $-NR^1R^2$, and the other represents a hydrogen atom or a halogen atom;

X represents an aryl group or a heteroaryl group, and the aryl group or heteroaryl group may be substituted with one or more substituents selected from Group A;

Group A consists of a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, an aryl group, a heteroaryl group,

-OR^{11}, and -$NR^{12}R^{13}$), a C_{2-7} alkenyl group (wherein the C_{2-7} alkenyl group may be substituted with one or more substituents selected from a halogen atom, a C_{1-8} alkyl group, an aryl C_{1-6} alkyl group, an aryl group, and a heteroaryl group), a C_{2-7} alkynyl group (wherein the C_{2-7} alkynyl group may be substituted with one or more substituents selected from a halogen atom, a C_{1-8} alkyl group, an aryl C_{1-6} alkyl group, an aryl group, and a heteroaryl group), a halogen atom, a hydroxyl group, an aryl group, a heteroaryl group, a cyano group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C_{1-8} alkyl group, which may be substituted with -OR^{11} or -$NR^{12}R^{13}$, an aryl group, an aryl C_{1-6} alkyl group, and a heteroaryl group), -$S(O)_nR^{14}$ (wherein n represents an integer between 0 and 2), a C_{1-6} alkoxy group (wherein the alkoxy group may be substituted with one or more groups selected from an aryl group, a heteroaryl group, -OR^{11}, -$NR^{12}R^{13}$, and a halogen atom), a 4- to 7-membered hetero ring group (wherein the hetero ring group may be substituted with one or more substituents selected from Group D), an aryloxy group, a heteroaryloxy group, and a C_{1-6} alkylenedioxy group; wherein R^{11}, R^{12}, R^{13}, and R^{14} are independently selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, an amino group, a C_{1-6}

alkylamino group, a di(C_{1-6} alkyl)amino group, an aryl group, and a heteroaryl group), an aryl group, and a heteroaryl group; or R^{12} and R^{13}, together with nitrogen to which they are bonded, may form a 4- to 7-membered hetero ring containing at least one nitrogen atom;

R^1 represents a hydrogen atom, or a C_{1-8} alkyl group that may be substituted with one or more substituents selected from Group B;

R^2 represents a C_{1-8} alkyl group substituted with one or more substituents selected from Group B~~.~~; or R^2 represents -$COOR^3$, -COR^4, -$COSR^5$, -$CONR^6R^7$, -$NR^{22}R^{23}$, or -$N=CR^{24}R^{25}$; or R^1 and R^2, together with a nitrogen atom to which they are bonded, may form a 4- to 10-membered hetero ring containing at least one nitrogen atom (wherein the hetero ring may be substituted with one or more substituents selected from Group C); wherein

R^3 represents a hydrogen atom, a C_{1-8} alkyl group, a C_{2-7} alkenyl group, a C_{2-7} alkynyl group (wherein the alkyl group, alkenyl group, and alkynyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-6} alkoxy group, and a phenyl group), a C_{3-8} cycloalkyl group, an aryl group, and a heteroaryl group), a C_{3-8} cycloalkyl group, an aryl group, or a heteroaryl group;

R^4 is selected from a hydrogen atom, a C_{1-8} alkyl group that may be substituted with one or more R^{20}s, an aryl group, and a heteroaryl group;

R^5 is selected from a hydrogen atom, a C_{1-8} alkyl group, an aryl group, and a heteroaryl group;

R^{20} represents a hydroxyl group, a halogen atom, an aryl group, a heteroaryl group, a C_{1-6} alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a halogen atom, an aryl group, and a heteroaryl group), an aryloxy group, a heteroaryloxy group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C_{1-8} alkyl group, an aryl group, an aryl C_{1-6} alkyl group, a heteroaryl group, and -$COOR^{21}$), or a 4- to 7-membered hetero ring group containing at least one nitrogen atom (wherein the hetero ring group may be substituted with a C_{1-8} alkyl group);

R^{21} represents a C_{1-8} alkyl group, an aryl C_{1-6} alkyl group, or an aryl group;

R^6 and R^7 are independently selected from a hydrogen atom, a C_{1-8} alkyl group, an aryl group, and a heteroaryl group;

R^{22} and R^{23} are independently selected from a hydrogen atom, a C_{1-8} alkyl group, an aryl group, and a heteroaryl group;

R^{24} and R^{25} are independently selected from a hydrogen atom, a C_{1-8} alkyl group, an aryl group, and a heteroaryl group;

Group B consists of a halogen atom, a C_{1-6} alkylcarbonyl group, a C_{1-6} alkylaminocarbonyl group, a C_{1-6} alkoxycarbonyl group, an aryl group (wherein the aryl group may be substituted with one or more substituents selected from a halogen atom, a C_{1-8} alkyl group, a C_{1-8} haloalkyl group, a hydroxyl group, a C_{1-6} alkoxy group, and a C_{1-6} haloalkoxy group), a heteroaryl group, $-OR^{31}$, and $-NR^{32}R^{33}$; wherein

R^{31}, R^{32}, and R^{33} are independently selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, an aryl group, an amino group, a C_{1-6} alkylamino group, and a di(C_{1-6} alkyl)amino group), an aryl group, a heteroaryl group, and $-COOR^{34}$; wherein R^{34} represents a C_{1-8} alkyl group, an aryl C_{1-6} alkyl group, or an aryl group; or

R^{32} and R^{33}, together with a nitrogen atom to which they are bonded, may form a 4- to 7-membered hetero ring containing at least one nitrogen atom (wherein the hetero ring group may be substituted with one or more groups selected from Group D);

Group C consists of an aryl group, a heteroaryl group, a C_{1-6} alkylcarbonyl group, a C_{1-6} alkylaminocarbonyl group, a C_{1-6} alkoxycarbonyl group, a hydroxyl group, a C_{1-8} alkyl group, a C_{1-6} alkoxy group (wherein the alkyl group and alkoxy group may be substituted with one or more substituents selected from a halogen

atom, an aryl group, a heteroaryl group, $-NR^{41}R^{42}$, and $-OR^{43}$), an aryloxy group, and a heteroaryloxy group; wherein

R^{41}, R^{42}, and R^{43} are independently selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, an amino group, a C_{1-6} alkylamino group, and a di(C_{1-6} alkyl)amino group), an aryl C_{1-6} alkyl group, an aryl group, and a heteroaryl group; or

R^{41} and R^{42}, together with a nitrogen atom to which they are bonded, may form a 4- to 7-membered hetero ring containing at least one nitrogen atom; and

Group D consists of a halogen atom, an aryl group, a heteroaryl group, an aryloxy group, a heteroaryloxy group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C_{1-8} alkyl group, a hydroxy C_{1-6} alkyl group, a C_{1-6} alkoxy C_{1-6} alkyl group, a C_{1-6} alkylamino C_{1-6} alkyl group, a di(C_{1-6} alkyl)amino C_{1-6} alkyl group, an aryl group, an aryl C_{1-6} alkyl group, and a heteroaryl group), a hydroxyl group, a C_{1-6} alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, a C_{1-6} alkylamino group, and di(C_{1-6} alkyl)amino group), a C_{1-6} alkoxycarbonyl group, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected

from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, a C_{1-6} alkoxycarbonyl group, an amino group, an aryl group, a heteroaryl group, a C_{1-6} alkylamino group, and a di(C_{1-6} alkyl)amino group~~,~~;

or a prodrug or a pharmaceutically acceptable salt of said compound.

2. (Original) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 1, wherein Y^3 represents $-NR^1R^2$.

3. (Previously Presented) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 1, wherein

Y^1, Y^2, and Y^4 represent a hydrogen atom;

Y^3 represents $-NR^1R^2$;

X represents an aryl group or a heteroaryl group, and the aryl group may be substituted with one or more substituents selected from Group A;

Group A consists of a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom and $-NR^{12}R^{13}$), a halogen atom, a hydroxyl group, an aryl group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C_{1-8} alkyl group and an aryl group), $-SR^{14}$, a C_{1-6} alkoxy group (wherein the alkoxy group may

be substituted with one or more groups selected from $-OR^{11}$ and a halogen atom), and a 4- to 7-membered hetero ring group (wherein the nitrogen atom of the hetero ring group may be substituted with one or two substituents selected from a C_{1-8} alkyl group and a C_{1-6} alkoxycarbonyl group); wherein

R^{11}, R^{12}, R^{13}, and R^{14} are independently selected from a hydrogen atom, a C_{1-8} alkyl group, and an aryl group; or R^{12} and R^{13}, together with nitrogen to which they are bonded, may form a 4- to 7-membered hetero ring containing at least one nitrogen atom;

R^1 represents a hydrogen atom, or a C_{1-8} alkyl group that may be substituted with one or more substituents selected from Group B;

R^2 represents a C_{1-8} alkyl group substituted with one or more substituents selected from Group B, $-COOR^3$, $-COR^4$, $-COSR^5$, $-CONR^6R^7$, $-NR^{22}R^{23}$, or $-N=CR^{24}R^{25}$; or R^1 and R^2, together with a nitrogen atom to which they are bonded, may form a 4- to 10-membered hetero ring containing at least one nitrogen atom (wherein the hetero ring may be substituted with one or more substituents selected from Group C); wherein

R^3 represents a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group (wherein the alkoxy group may be substituted with one or more

substituents selected from a hydroxyl group, a C_{1-6} alkoxy group, and a phenyl group), a C_{3-8} cycloalkyl group, an aryl group, and a heteroaryl group), a C_{2-7} alkenyl group, a C_{2-7} alkynyl group, a C_{3-8} cycloalkyl group, an aryl group, or a heteroaryl group;

R^4 is selected from a hydrogen atom, a C_{1-8} alkyl group that may be substituted with one or more R^{20}s, an aryl group, and a heteroaryl group, and R^5 is selected from a C_{1-8} alkyl group and an aryl group;

R^{20} represents a hydroxyl group, a halogen atom, an aryl group, a heteroaryl group, a C_{1-6} alkoxy group, an aryloxy group, an aryl C_{1-6} alkoxy group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C_{1-8} alkyl group, an aryl group, and $-COOR^{21}$), or a 4- to 7-membered hetero ring group containing at least one nitrogen atom (wherein the hetero ring group may be substituted with a C_{1-8} alkyl group);

R^{21} represents a C_{1-8} alkyl group, an aryl C_{1-6} alkyl group, or an aryl group;

R^6 and R^7 are independently selected from a hydrogen atom, a C_{1-8} alkyl group, and an aryl group;

R^{22}, R^{23}, R^{24}, and R^{25} are independently selected from a hydrogen atom, a C_{1-8} alkyl group, an aryl group, and a heteroaryl group;

Group B consists of a halogen atom, a C_{1-6}

alkoxycarbonyl group, an aryl group, $-OR^{31}$, and $-NR^{32}R^{33}$; wherein

R^{31}, R^{32}, and R^{33} are independently selected from a hydrogen atom, a C_{1-8} alkyl group, an aryl C_{1-6} alkyl group, an aryl group, a heteroaryl group, and $-COOR^{34}$; wherein R^{34} represents a C_{1-8} alkyl group, an aryl C_{1-6} alkyl group, or an aryl group; or

R^{32} and R^{33}, together with a nitrogen atom to which they are bonded, may form a 4- to 7-membered hetero ring containing at least one nitrogen atom; and

Group C consists of a C_{1-6} alkoxycarbonyl group, a hydroxyl group, a C_{1-8} alkyl group, an aryl C_{1-6} alkoxy C_{1-8} alkyl group, a hydroxy C_{1-8} alkyl group, an aryloxy group, and a heteroaryloxy group.

4. (Previously Presented) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 1, wherein R^1 and R^2, together with a nitrogen atom to which they are bonded, form a 4- to 10-membered hetero ring containing at least one nitrogen atom, wherein the hetero ring may have a substituent selected from Group C.

5. (Previously Presented) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 1, wherein Y^2 or Y^3 represents a morpholinyl group, an azetidinyl group, a pyrrolidinyl group, or piperidinyl group, and

the hetero ring group may be substituted with one or more substituents selected from a hydroxyl group and a hydroxy C_{1-6} alkyl group.

6. (Previously Presented) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 1, wherein Y^2 or Y^3 represents a morpholinyl group, an azetidinyl group, a pyrrolidinyl group, a 3-hydroxypyrrolidinyl group, a 2-hydroxymethylpyrrolidinyl group, a 3-hydroxymethylpyrrolidinyl group, a piperidinyl group, a 3-hydroxypiperidinyl group, a 4-hydroxypiperidinyl group, a 2-hydroxymethylpiperidinyl group, a 3-hydroxymethylpiperidinyl group, a 4-hydroxymethylpiperidinyl group, or a 4-hydroxy-4-hydroxymethylpiperidinyl group.

7. (Previously Presented) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 1, wherein

R^1 represents a hydrogen atom or a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from Group B); and

R^2 represents a C_{1-8} alkyl group substituted with one or more substituents selected from Group B, $-COOR^3$, or $-COCH_2NHCOOR^{21}$.

8. (Previously Presented) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 1, wherein

R^1 represents a hydrogen atom; and

R^2 represents $-COOR^3$, $-COSR^5$, $-CONR^6R^7$, or $-COR^4$.

9. (Previously Presented) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 1, wherein R^2 represents $-COOR^3$.

10. (Previously Presented) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 9, wherein R^3 represents a C_{1-8} alkyl group, a C_{2-7} alkenyl group, or a C_{2-7} alkynyl group (wherein the alkyl group, alkenyl group, and alkynyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, or a C_{1-6} alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-6} alkoxy group, and a phenyl group)).

11. (Original) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 10, wherein R^3 represents a C_{1-8} alkyl group that is substituted with one or more hydroxyl groups, a C_{2-7} alkenyl group that is substituted with one or more hydroxyl groups, or a C_{2-7} alkynyl

group that is substituted with one or more hydroxyl groups.

12. (Original) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 11, wherein R^3 represents a C_{1-6} alkyl group that is substituted with one or more hydroxyl groups.

13. (Previously Presented) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 1, wherein Y^2 or Y^3 represents a bis(hydroxy C_{1-6} alkyl)amino group, a methyl(hydroxy C_{1-6} alkyl)amino group, a hydroxy C_{1-6} alkylamino group, a methyl(morpholinyl C_{1-6} alkyl)amino group, an amino C_{1-6} alkylamino group, a C_{1-6} alkoxycarbonylamino group, or a hydroxy C_{1-6} alkoxycarbonylamino group.

14. (Previously Presented) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 1, wherein Y^2 or Y^3 represents a bis(2-hydroxyethyl)amino group, a methyl(2-hydroxyethyl)amino group, a 2-hydroxyethylamino group, a methyl(2-morpholin-4-ylethyl)amino group, a methyl(2-aminoethyl)amino group, or a 2-hydroxyethyloxycarbonylamino group.

15. (Previously Presented) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to

claim 1, wherein X represents a phenyl group or a heteroaryl group, and the phenyl group or heteroaryl group may be substituted with one or more substituents selected from Group A.

16. (Currently Amended) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to ~~claims~~ claim 1, wherein X represents a phenyl group, and the phenyl group may be substituted with one or more substituents selected from Group A.

17. (Previously Presented) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 1, wherein

X represents a phenyl group or a heteroaryl group, and the phenyl group or heteroaryl group may be substituted with one or more substituents selected from Group A; and

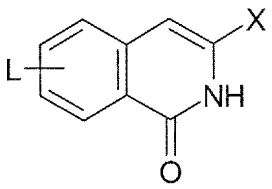
Group A consists of a C_{1-8} alkyl group that is substituted with one or more halogen atoms, an aryl group, a C_{1-6} alkylthio group, a di(C_{1-6} alkyl)amino group, a 4- to 7-membered hetero ring group containing at least one nitrogen atom, a C_{1-8} alkyl group, a C_{2-7} alkenyl group, a C_{2-7} alkynyl group, a C_{1-6} alkoxy group (wherein the alkoxy group may be substituted with one or more halogen atoms), and a hydroxyl group.

18. (Previously Presented) The compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to

claim 1, wherein X represents a phenyl group, and the phenyl group may be substituted with one or more substituents selected from an ethyl group, a trifluoromethyl group, a trifluoromethoxy group, a methylthio group, a methoxy group, a chloro group, a phenyl group, a dimethylamino group, a morpholinyl group, a piperidinyl group, and a pyrrolidinyl group.

19. (Currently Amended) A compound represented by the following formula IV:

~~[Formula IV]~~

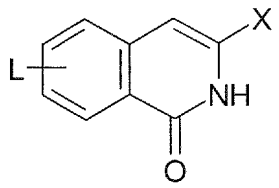


IV

(wherein X represents a phenyl group or a heteroaryl group, and the phenyl group or heteroaryl group may be substituted with one or more substituents selected from Group A; and L represents ~~a halogen atom~~ a fluorine atom, a bromine atom, or an iodine atom that is bonded to the 6- or 7- position on an isoquinolone ring).

20. (Currently Amended) A method for producing the compound according to claim 1, which comprises amination of a compound represented by the following formula IV:

~~[Formula IV]~~



IV

(wherein X represents a phenyl group or a heteroaryl group, and the phenyl group or heteroaryl group may be substituted with one or more substituents selected from Group A; and L represents a fluorine atom, a bromine atom, or an iodine atom ~~halogen atom~~ that is bonded to the 6- or 7- position on an isoquinolone ring).

21. (Previously Presented) A pharmaceutical composition, which comprises, as an active ingredient, the compound, prodrug thereof, or pharmaceutically acceptable salt thereof according to claim 1.

22. (Cancelled)

23. (Cancelled)